



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/598,061

06/27/2007

Raymond Walter Shaw

21540-0002US1

9675

26171 7590 05/29/2009

FISH & RICHARDSON P.C.

P.O. BOX 1022

MINNEAPOLIS, MN 55440-1022

EXAMINER

STALDER, MELISSA A

ART UNIT

PAPER NUMBER

1793

NOTIFICATION DATE

DELIVERY MODE

05/29/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

| | | | |
|------------------------------|--------------------------------------|---|--|
| Office Action Summary | Application No. 10/598,061 | Applicant(s) SHAW, RAYMOND WALTER | |
| | Examiner MELISSA STALDER | Art Unit 1793 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08-16-06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 4, 5, 6, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakon (AU 200154474 B2). Nakon teaches an extraction process where aluminum may be extracted (pg. 6, lines 4-7) from an aqueous solution with an extraction step using an organic reagent. Then the metals are separated and recovered using an aqueous solution (pg. 4, 4a, 5). The aqueous solution can be acidic (pg. 23). Nakon teaches that a standard stripping solution involves contacting the organic solution with hydrochloric acid. It would have been obvious to one of ordinary skill in the art to use a leach solution to extract the metals as a metallurgical process is described. Further, it would have been obvious to precipitate the aluminum as this is a common recovery process when separating metals from an aqueous solution. Finally, it would have been obvious to use the hydrochloric acid in the range of pH 1-6 as this includes most of the acidic range and one of ordinary skill in the art would be able to optimize the solution within this range for use in the process.

Regarding claim 9, it would have been obvious to one of ordinary skill in the art at the time of the invention to heat an aqueous solution to drive off or evaporate water to obtain the solid alumina.

Art Unit: 1793

Claims 2 and 10-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakon (AU 200154474 B2) as in claims 1, 3, 4, 5, 6, 7, and 8 above, further in view of Bradford (US 2004/0011660). Bradford teaches the electrolytic production of aluminum from alumina where aluminum is collected from the cathode (0019). The alumina is dissolved in an electrolyte (ionic liquid) (0023). Bradford teaches that it is known in the prior art that electric cells may have a membrane to separate compartment. It is well known in the art to have a membrane that operates by concentration gradient. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teaching of Nakon with the process of Bradford because Bradford teaches an efficient way in which to retrieve aluminum from a solution and not contaminate the alumina particles (0017-0021).

Regarding claims 13, 14 and 15, the two different types of cells described in these claims are well known in the aluminum production art. It would have been obvious to one of ordinary skill in the art at the time of the invention to apply one as it is well known to use electrowinning or an electrolytic cell to recover aluminum.

Regarding claim 25, aluminum is produced in the process of Bradford.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MELISSA STALDER whose telephone number is

Art Unit: 1793

(571)270-5832. The examiner can normally be reached on Monday-Friday, 8:00-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Melvin Curtis Mayes can be reached on 571-272-1234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MS
05-22-09

/Melvin Curtis Mayes/
Supervisory Patent Examiner, Art Unit 1793